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Patentanmeldung Nr. Patent application No. Demande de brevet n°

00202666.4

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
p.o.

I.L.C. HATTEN-HECKMAN

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Sheet 2 of the certificate
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Method and arrangement for providing access to a consumer device

As the consumer electronics world migrates from analog to digital technology and from narrowband to broadband networks, the value of consumer electronics business models that incorporate software and services is growing relative to the value of business models based on hardware alone.

5 This shift towards services has already taken place in the computer world, where software application and computer service providers are valued more highly per revenue dollar or net asset dollar than traditional PC manufacturers. It is now emerging in the TV world with development of technologies that enable digital TV.

10 It has often been - and it still is - a common mistake to equate digital TV services solely with digital televisions (HDTVs or SDTVs). Digital services can also be delivered over higher volume analog TVs that are equipped to accept a digital feed (gatewayed is the term we will use). As a result, content providers have started developing digital applications and services that run over analog TVs.

15 Competition for service value capture has primarily taken four forms in today's Consumer Electronics market, depending on the consumer hardware interface (PC and TV) and the type of access network (one-way data broadcasting, two-way narrowband networks, particularly telco lines, and two-way proprietary broadband networks such as US digital cable networks). This landscape will expand over time as new consumer hardware appears, such as audio and TV peripheral appliances, and converges towards 'Home Networks', where
20 all appliances are connected to a Home Network with a single gateway to the Internet, and broadband networks become common carriers.

25 It is an object of the invention to provide an easy, open and flexible method of providing access to a consumer device.

This object is achieved in a method wherein a consumer selects a content provider from a set of offerings presented on the consumer device, the consumer device submits the selection to a gateway system, the gateway system provides access to the

consumer device for the selected content provider, and the content provider is subsequently allowed to provide content to the consumer device.

In a preferred embodiment the consumer device is a television. Many people will buy such consumer devices, and there is a great demand for services and content on televisions. Thus, providing access to a television is very much desired.

It is a further object of the invention to provide an easy, open and flexible arrangement for providing access to a consumer device.

This object is achieved in an arrangement comprising the consumer device, a plurality of content providers connected to a gateway system, said gateway system being arranged to provide access to the consumer device, whereby the consumer device is arranged to present offerings for content providers from said plurality, to receive a selection of a content provider from said offering and to submit the selection to the gateway system, and wherein the gateway system is arranged to provide access to the consumer device to the content provider from said selection.

In a preferred embodiment the consumer device is a television. Many people will buy such consumer devices, and there is a great demand for services and content on televisions. Thus, providing access to a television is very much desired.

These and other aspects of the invention will be apparent from and elucidated with reference to the embodiments shown in the drawing, in which:

Figure 1 schematically shows an arrangement comprising a number of content providers and consumer device; and

Figure 2 schematically shows a consumer device.

Throughout the figures, same reference numerals indicate similar or corresponding features. Some of the features indicated in the drawings are typically implemented in software, and as such represent software entities, such as software modules or objects.

Figure 1 schematically shows an arrangement comprising a number of content providers 107, 108, 109 and a consumer device 101. In the embodiment shown, the consumer device 101 is a television, other consumer electronics products, such as screen radios with Internet radio providers, screen phones with internet telephony providers, Net Monitors with

service provider relationships similar to TV, DVDs with TV, games, and/or personalized TV applications can easily be used as well. The consumer device 101 may be arranged to receive broadband or narrowband content.

The consumer device 101 may further comprise a video recorder or set-top box 102. To control the device 101, a remote control 103 and/or a remote keyboard 104 may be available. These devices preferably communicate with the device 101 using infrared or radio communication, although a wired connection could also be used.

As an alternative or supplement to set-top box 102, a module 105 can be provided in the device 101. This module 105 can be inserted in the device 101 at the time of manufacture of the device 101, but may also be sold separately and be installed by a consumer. This allows easy upgrading of the device 101 or of the module 105, should new technologies such as xDSL become available.

Through the module 105, the device 101 is able to communicate with a gateway system 106. The module 105 may to this end be connected to a telephone network, local area network, home network, the Internet or a two-way cable network or a similar network. The technology used to connect the module 105 to the server may be ISDN, POTS, ADSL or any similar technology. The connection may also comprise using an Internet Access Provider, through which communication with the gateway system 106 can be facilitated over the Internet. The gateway system 106 can be a head-end system in a cable network, to which content providers 107, 108, 109 supply content, which is then coded for transmission over the cable network and distributed to the cable service subscribers.

The gateway system 106 provides access to the consumer device 101 for the content providers 107, 108, 109. The gateway system 106 can also be a set-top box connected to the device 101. The gateway system 106 may provide services such as registration, device management, upgrading, diagnosis, configuration and possibly accounting or billing content providers. Using the gateway system 106, the consumer can use his device 101 to access the content, for example by browsing the World-Wide Web on his television.

The WebTV product provides an example of the Web-on-TV concept. WebTV carries out several value added activities as an Internet TV broadcaster. First, it provides an interface for broadcasters who want to enhance their broadcasted programs. Second, WebTV Networks provide a Proxy service between the user and the content. This allows them to pre-process the Web content before delivery to the WebTV device in the user's home. Such pre-processing allows them to maximize the chance that the WebTV box will do something sensible with the content despite the fact that it was probably authored for PC display with its

screen resolution and color depth. Transcoding of content types allows the box to have a subset of data type decoders usually found on a PC whilst still being able to display the content.

However, the arrangement according to the invention offers more than simple
5 TV-based Web access. The strategy is to provide the consumers with an enhanced TV experience that requires the Internet's capabilities to deliver. This experience will evolve into Internet based broadcasting. This enhanced TV experience will include a combination of packaged push content, customized pull content, and consumer generated content. Examples
10 of currently available services include interactive EPGs, program specific information, rich (video) e-mail, search, and chat. A highly visual format can be used to appeal to low-tech TV viewers who are seeking 'lazy interactivity' entertainment, in contrast to the highly interactive and informational approach of PC portals.

Figure 2 shows the consumer device 101 in more detail. The device 101 has a display 201, on which content such as television programs can be presented to the user. A
15 switchboard approach is used to provide the consumer the ability to choose a content provider, such as WebTV or AOL, while current Internet TV set-top-boxes are restricted to a single content provider. To this end, the display 201 provides a single consumer interface for choosing a content provider. This interface or switchboard is a 'storefront' for digital service provider options to the consumer. For each available provider, a representation 202-207,
20 which can be an icon or picture of some sort, is displayed, and for each provider a demo can be executed that enables the consumer to experience the benefits of its offer. In one embodiment, selecting the representation 202 would start a demo for the corresponding content provider, after which the consumer is asked whether he wishes to subscribe to this content provider. If he does not want to subscribe, he is returned to the switchboard where he
25 can make another choice. In this way, there is significant added value to the consumers by making them aware of their choices in an enjoyable manner, in the comfort of their own homes.

Consumers can now select between several content providers. The providers from which the consumer can choose can be pre-selected by the provider of the gateway
30 system 106. Consumers will choose their content provider at home, after having bought the device 101. After making a selection, in Figure 2 shown by highlighting the representation 203, this selection is submitted to the gateway system 106. The gateway system 106 then informs the corresponding content provider, and may facilitate automated subscription of the user. To allow the consumer to access the content, content provider specific Internet TV

software may have to be downloaded into the device 101. The consumer can, at a later time, choose another content provider. This then requires that the content provider specific software currently present in the device 101 is disabled or deleted, so that content provider specific software for the newly chosen content provider can be downloaded.

5 The representations or icons 202-207 can be stored in the consumer device 101, but preferably they are downloaded from the gateway system 106 when the device 101 is first activated and connected. This ensures that the consumer always gets the latest offerings, and obviates the need for large storage space in the device 101. When the device 101 is activated the first time, or when the user selects this option from a menu of some kind, 10 the device 101 will download the representations 202-207 from the gateway system 106 and present them on the display 201.

The gateway system 106 may store the representations 202-207 locally in memory or in some external memory. It could also periodically or on request contact the content providers 107-109 to download the representations. This way, the gateway system 15 106 can always offer the latest versions of the representations, and content providers 107-109 can easily update their offerings.

The demonstrations associated with a representation 202-207 could be embedded in the representation, for example as short movie clips showing the various offerings of the content provider associated with that representation. Depending on 20 processing capabilities in the consumer device 101, an interactive program which simulates some or all of the functionality of the content provider's system could be downloaded and executed as a demonstration. The demonstration could also constitute a trial run or guided tour, allowing the consumer to access some or all of the content offered by the content provider for some trial period so he can get a feel of what the actual system works like. In 25 that case, the gateway system 106 should provide access to the consumer device 101 for the selected content provider for the duration of the trial period.

This approach to Internet TV delivery offers several economic advantages over stand-alone hardware approaches:

- It catches the consumer at a time when he is willing to spend money on a TV set (he has 30 already decided to buy a new one) and is thinking about future TV functionality. A good comparison would be a consumer's decision whether to purchase air conditioning at the moment that he is buying a new car. The decision to buy the car has already been made; the consumer is already going to make a significant investment; the only question is how 'feature rich' that investment is going to be.

It offers the consumer improved ease of use, installation, and living room space management.

- It provides the consumer with an ongoing choice of Internet TV service providers if he is dissatisfied with his initial choice.

5 The enhanced features provided by the device 101 should be easy for the consumer to use. Both the registration process / content provider selection and the access to the selected content provider should be consumer friendly. The home installation process should be more user-friendly than installation of dedicated hardware.

10 The act of choosing a content provider at home, on line, should also be positioned as relaxed and user friendly. The device 101 preferably is very audio-visual in the process of choosing a content provider, for instance by exploiting speech recognition technology to create as much of a 'guided' process as possible. For ease of use, consumers can get access to the registration/selection screen through a button on their remote control 103, although the screen might also be part of an on-screen menu or similar system. If the
15 consumer needs to perform some initial setup upon first activating the device 101, the registration/selection screen would preferably be part of this initial setup, with the option of deferring this activity to a later time. When the consumer has summoned the registration/selection screen, he will be asked to enter data with the keyboard 104 such as his name and address. The registration may also involve entering personal preferences and other
20 information. They will then be asked to select their content provider after watching demonstrations made available by each supplier. When this choice is submitted to the gateway system 106, and the subscription to the chosen content provider has been realized, content provider specific software will be downloaded to the device 101. The device 101 will then be ready for enhanced use. Consumers can then easily access the enhanced content
25 through their remote control 103 and/or their keyboard 104 while watching TV.

This arrangement may provide consumers with an upgradeable environment. Future service provider offers and applications can be downloaded online, within the limits of existing module memory, e.g., future browser versions. This means that the consumer can do more than choose the content provider he wants today; the consumer can choose the content
30 provider he wants over time. Given the fact that the number and type of content providers will also increase over time, this offer ensures long-term consumer satisfaction, within the limits of its modul technology. Such limits are mainly related to the modules' memory.

In traditional broadcasting, few broadcasters could claim that they 'owned' a consumer household; each broadcaster offered only one channel and it was easy for

consumers to switch between channels on a minute-by-minute basis. Internet content providers are on their way to becoming broadcasters, more clearly so with the advent of streaming digital video, but their competitive dynamics differ from traditional broadcasters. Internet based broadcasters will each offer an incredibly wide array of entertainment and communications content – nearly unlimited if structured properly – and will create ‘walled garden’ environments and navigational formats that a living room consumer will be reluctant to leave. Therefore, Internet broadcasting takes on the dynamic of ‘Winner Take All’. The digital content provider who signs up a customer gets nearly all of the subscription, advertising, and e-commerce profits from that subscriber’s lifecycle on the service. Other providers get next to nothing.

Furthermore, several elements of a digital content provider’s economics are scale-related. Providers with the largest subscriber bases can:

- create ‘community’ applications that enable its subscribers to talk exclusively to other subscribers
- afford good targeting advertising and command high ad rates
- amortize the cost of brand building

The combination of these factors – winner take all at the subscriber level and important benefits from scale – lead digital content providers to compete through ‘land grab’ strategies. They will be willing to spend a significant amount of the expected Net Present Value (NPV) of a new customer on converting that customer to their customer base. The stock market has, to date, highly rewarded those digital content providers who have intelligently and aggressively grown their subscriber base through a ‘land grab’ approach.

In the near future, most major markets will have several Internet TV content providers competing to build customer bases in a ‘land grab’ manner. It is within this context that a gatewayed TV strategy makes economic sense. Each content provider 107-109 should be willing to pay the provider of the gateway system 106 a certain amount of the lifetime NPV of a consumer that is added to its customer base. The more valuable each consumer becomes, the higher the ‘referral fee’ that each content provider should be willing to pay.

CLAIMS:

1. A method of providing access to a consumer device, wherein a consumer selects a content provider from a set of offerings presented on the consumer device, the consumer device submits the selection to a gateway system, the gateway system provides access to the consumer device for the selected content provider, and the content provider is subsequently allowed to provide content to the consumer device.
2. The method of claim 1, where the consumer device is a television.
3. A arrangement for providing access to a consumer device, comprising the consumer device, a plurality of content providers connected to a gateway system, said gateway system being arranged to provide access to the consumer device, whereby the consumer device is arranged to present offerings for content providers from said plurality, to receive a selection of a content provider from said offering and to submit the selection to the gateway system, and wherein the gateway system is arranged to provide access to the consumer device to the content provider from said selection.
4. The arrangement of claim 3, where the consumer device is a television.

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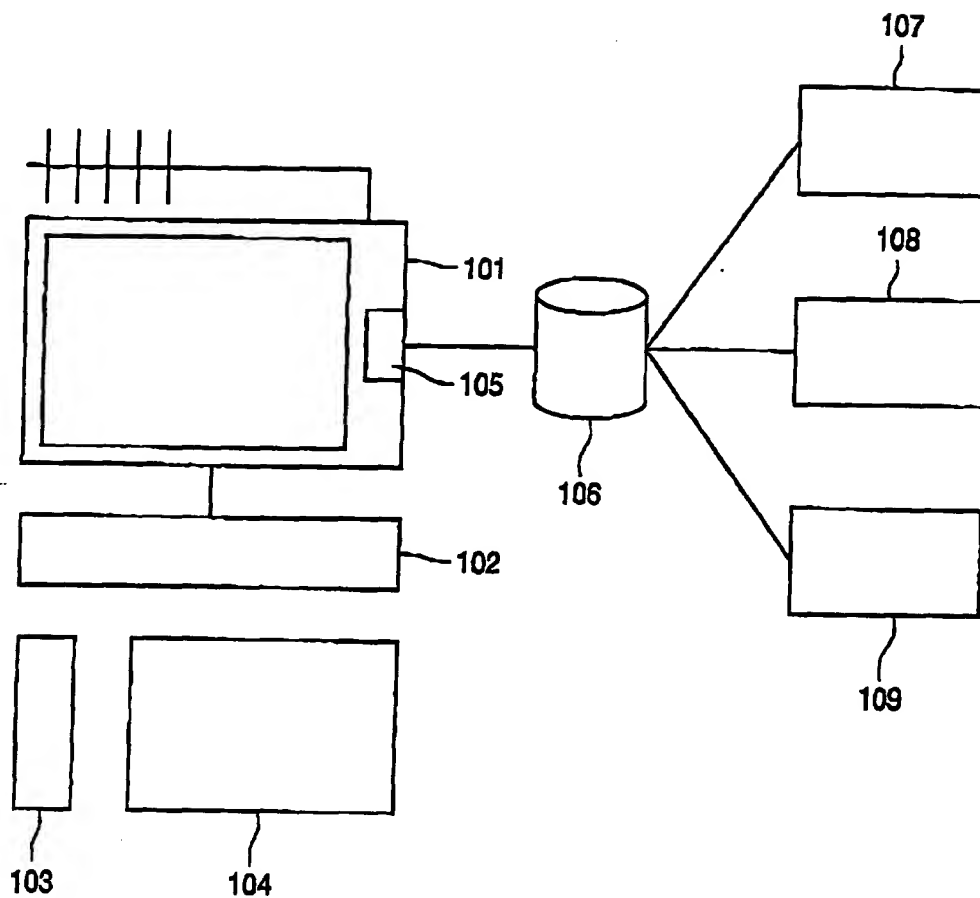


FIG. 1

ABSTRACT:

The invention relates to a method and arrangement for providing access to a consumer device (101), such as a television. Content providers (107, 108, 109) are connected to a gateway system (106), which provides access to the consumer device (101). The consumer device (101) presents to the user offerings for the content providers (107, 108, 109), and receives a selection of a content provider from the user. The selection is submitted to the gateway system (106), which then facilitates access to the consumer device (101) for the selected content provider. Using the same mechanism, the user can switch to another content provider later.

10 Fig. 1

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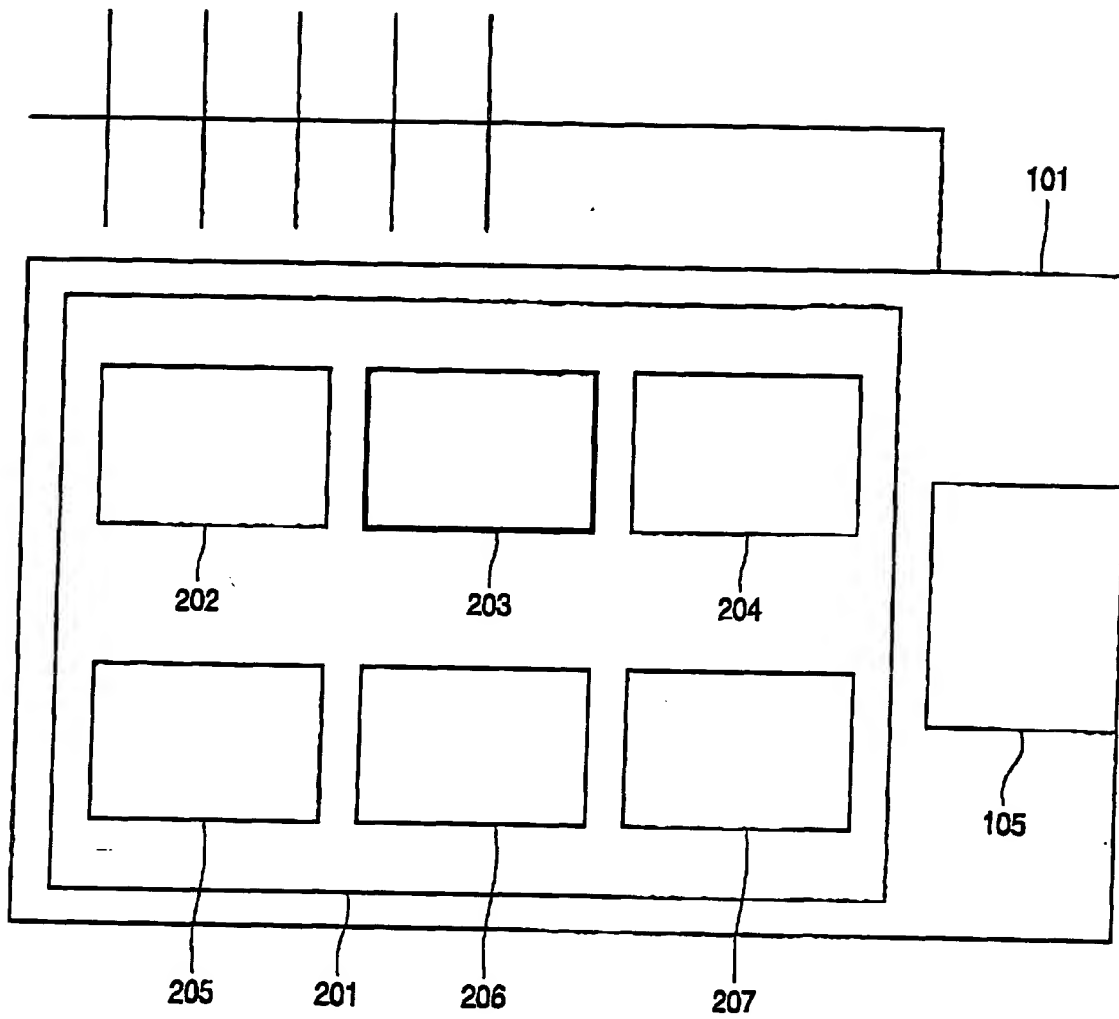


FIG. 2

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